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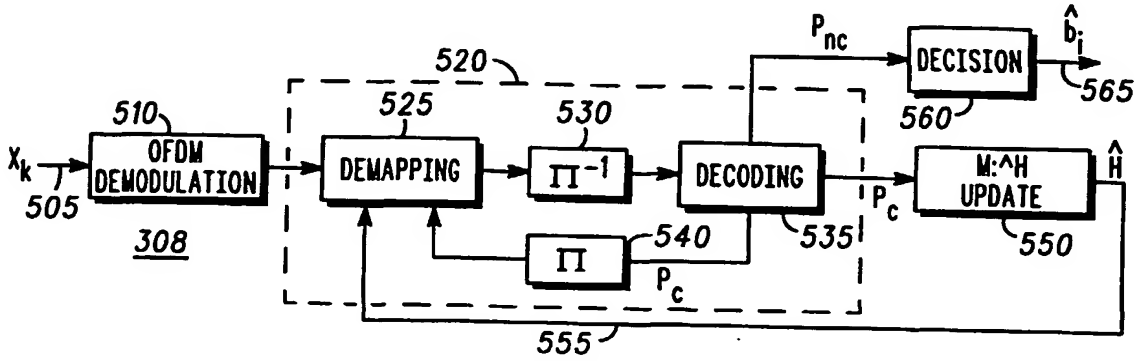
(54) Title: COMMUNICATION UNIT AND METHOD OF CHANNEL ESTIMATION IN AN OFDM COMMUNICATION SYSTEM



(57) Abstract: A method (500) of channel estimation in a wireless orthogonal frequency division multiplexed (OFDM) communication system (700). The received data stream (505) is demodulated in OFDM demodulation function (510). The output from the demodulation function is input to a channel estimation function, which incorporates an estimation function (520) and a maximization function (550). The OFDM demodulated signal is input to a de-mapping function (525), which outputs de-mapped signals to a de-interleaving function (530), and thereafter to a soft output decoder function (535). In this manner, the channel estimation function is operational over both the de mapping and decoding functions. The output from the decoding function is fed back to the de-mapping function via an interleaving function 540. The output from the improved estimation function (520) is input to a maximization function (550). The output from the maximization function is input to the de mapping function.

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